

NATIONAL AUDUBON SOCIETY



Nature Program

BIRDS OF PREY



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by

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HAVE YOU EVER SEEN a Peregrine Falcon go into a "power dive" after a Starling...or watched a Marsh Hawk course over a meadow and suddenly pounce upon an unsuspecting mouse? Perhaps you have been privileged to sight a Horned Owl gliding silently through a dark woodland in search of an unwary rabbit...or you may have seen a Snowy Owl patrolling a beach, its great yellow eyes agleam with hunger after a trip from the Arctic. A careless muskrat has little chance of escape!

These are typical snapshots of birds of prey getting their living. What was your feeling toward them while you read these brief descriptions of their everyday habits? Were you repelled? Did you think of them with distaste, as robbers, assassins, murderers? Many people do.

Do you put hawks, eagles, vultures, and owls in a class called "bad birds"—and regard thrushes, swallows, orioles, chickadees and other songsters as "good birds?" If you do, you have lots of company; perhaps nine out of ten people who start reading this book will do the same. And they hold so many prejudices for and against particular birds that we must begin our story by examining the evidence that supports some of these beliefs.

Let us put some of our "good" and "bad" birds on trial. Perhaps we shall find that even the so-called murderers and cannibals among birds have a worth-while function; and that some of our most beloved song-birds make their living in the same way as do the birds of prey.

What Makes a Bird a Predator?

TO START, what is a bird of prey—or a *predator*—to use the scientist's term? Simply defined, the word means "a creature that lives by preying upon and devouring other animals."

Let's name a few. You say that's easy—a cruel Hawk swooping upon and seizing a harmless Song Sparrow for its dinner! But what about the cruel Robin that tugs a harmless earthworm out of the lawn to fill the yawning mouths of its nestlings? And if we must admit that the Robin is a predatory bird, we must do the same for the Bluebird, Mockingbird, Baltimore Oriole and many more of the "good" birds. They all live, wholly or partly, upon the bodies of the worms, grubs, insects, and other animal life that they kill. Yes, by a strict definition, many songbirds are predators—although we apply the term mostly to eagles, hawks, vultures, and owls.

Why do we label these particular groups of birds as gangs of criminals, and often destroy them as enemies? Isn't it because we delight in imposing our human moral standards upon wildlife? It is wrong for a man to kill a man; therefore, we reason, it must be wrong for a bird to kill a bird.

We fail to recognize that civilized man, through his thinking powers, has freed himself from the need for going out and personally killing his own animal food. His substitute system is the breeding of beef cattle, the slaughterhouse, and the meat market.

We cannot expect Song Sparrows to match our human system—to breed insects systematically for their food! They must hunt, kill and eat their insect food where they can find it. If the natural enemies of Song Sparrows, such as Sharp-shinned Hawks, are reduced or eliminated, there may be too many sparrows competing for a limited food supply. This means that some of them will have to go. Nature's controls, other than predators, are starvation and disease. Doesn't this indicate that we should look with understanding eyes upon the woodland drama in which a Sharp-shinned Hawk captures a Song Sparrow in flight and snuffs out its life in an instant? Would it be more humane for the sparrow to meet slow death by starvation or disease?

Each Creature Plays Its Role in Nature's Drama

ONE OF the leading conservation philosophers of our day, Dr. Irston Barnes, President of the Audubon Society of the District of Columbia, expresses his views on this subject of man's ethics and nature's laws in a most convincing way:

Shrikes usually live in open country where they raise four to six young.



8. YOUNG LOGGERHEAD SHRIKES

"In the world of nature," he says, "there are no good and bad birds. Each animal is chained by countless centuries of evolution to an instinctive pattern of behavior, the most basic of which pertains to the food it eats and the manner of its capture. Thus a hawk is powerless to alter its tastes or its manners. This dictate of nature assures that each form of life shall fulfill its destiny, that no chaos of individual choices shall destroy nature's balance of resources, and that no essential job shall be left undone. The very fact that a form of life exists is clear testimony to its rightness; each form has its essential role in a healthy wildlife community."

Bird Executions on Fanciful Evidence

A HAWK SOARS over his farmyard and the man with the hoe rushes for his trusty shooting iron... A hunter roaming the October woods flushes a Horned Owl that has been dozing in a tree. He shoots it and congratulates himself upon having dispatched a "ferce and vicious" killer that he fancies is directly competing with him for grouse and other game. By what logic it is "vicious" for a Horned Owl to kill a rabbit, but an act of rugged sportsmanship when the deed is done by a man, has never been very satisfactorily explained... A rancher surveying his grazing lands from a plane spots a floating speck in the sky that turns out to be a Golden Eagle wheeling gracefully, his gaze intent upon a ground squirrel that would make a succulent meal. The



10. BUTCHER BIRD: LOGGERHEAD SHRIKE

A shrike eats insects mostly, but sometimes impales mice and small birds on thorns or barbed wire.

rancher recalls lurid tales of eagle depredations upon livestock, so he shoulders his gun and draws a bead; the great golden bird plummets earthward. The man in the plane did not thrill to the magnificent powers of flight of the eagle, far more wondrous than those of his mechanical bird. Obviously he would not agree with naturalist Olaus Murie that a dead eagle is both an economic and a spiritual loss.

Another well-known naturalist, Aldo Leopold, expressed it this way: "The swoop of a hawk... is perceived by one as the drama of evolution. To another it is only a threat to the full frying pan. The drama may thrill a hundred successive witnesses; the threat only one—for he responds with a shotgun."

Many other birds of prey suffer the same fate as those just described. Vultures are shot by some ranchers because they are suspected of spreading disease or killing newborn calves. Even shrikes (Nos. 8 and 10) are sometimes blasted into eternity because squeamish humans don't like to see them impaling their victims on thorns or barbed wire fences. What these folks need is a tour through a slaughterhouse!

We Need the Beauty of Majestic Hawks!

THEN THERE ARE the "bird lovers" who put out feeding stations and proceed cheerfully to commit mayhem on all the "bad" birds that are attracted. They see joy in the face of a Chickadee and evil in the visage of a Sharp-shinned Hawk. They apparently feel the Creator slipped up a bit when He gave us jays, hawks, and owls—and so they are out to remold the wildlife community after their own design. The distinguished ornithologist and artist, George Miksch Sutton, probably had that philosophy in mind when he wrote in *The Auk*, "The public must be brought to a realization of the fact that great beauty is to be found where mere prettiness does not exist, that the soaring of the wide-winged hawks, their discordant cries, their mottled plumage and gleaming eyes, are just as truly beautiful as the fluttering flight, cheerful songs, and sweet faces of our smaller bird neighbors. Surely, an appreciation of the beauty and majesty of these birds of prey does not demand a special spiritual endowment of some sort!—Our deepest, most sincere reasons for protecting wildlife are not, after all, based on economic values. If we can make the public sense the need for these magnificent creatures in everyone's experience, the preservation of the birds of prey which are now too rare will become an important and fascinating feature of the wildlife conservation movement."

Hawks and owls have never had an easy life. Both groups have been persecuted widely, hawks more so than owls. Hawks are day-flying birds, and most of the owls are nocturnal, so man is less aware of the activities of the latter.

Game farms have had a lot to do with developing anti-predator prejudice. English gamekeepers early developed the concept that anything which "competed" with game should be regarded as "vermin" and liquidated. This idea was imported into the United States and Canada and prevailed up until fairly recent years.

It should be remembered that game farms produce abnormal concentrations of birds in open pens completely lacking in escape cover such as briar patches, shrubbery, etc. This situation allows even the slowest of hawks to dine on birds that are usually too swift for them to capture in a natural environment. Many a gamekeeper makes his generalizations about predation from the highly artificial situation he creates on his game farm.

Birds of Prey May Increase Abundance of Game Birds

THE DEVELOPMENT of wildlife research as a profession probably did more than anything else to quash the gamekeepers' ideas about the birds of prey. Professional game managers discovered that the key to wildlife abundance is food and cover. They found that under normal conditions predators exert a negligible influence in determining the abundance of game. They pointed out that in some instances predators actually aid the game by helping to control the populations of rodents which sometimes prey upon the eggs and young of game birds. They stated, too, that predators are responsible for developing alertness and speed in game species, characteristics that most certainly make them of interest to sportsmen.

Hunters have been slow to accept what some of them regard as impractical theories, but actual experimentation by state and federal conservation agencies has proved that the theories are based on fact. There are few game managers today who will deny that, if the environmental conditions are right, game will thrive, and if they are inadequate, game will be scarce regardless of how intensively the predatory birds and mammals are destroyed.

"Hawks and Game Thrive Together..."

RICHARD H. POUGH, former Chairman of the Department of Conservation at the American Museum of Natural History, says that in his travels as a biologist and ecologist he has noted that in relatively primitive, undisturbed wild areas, both game birds and hawks have seemed unusually abundant. He adds that a careful analysis of the interplay of one species on another within the wildlife community reveals a number of reasons for believing that game and hawk abundance may be linked far more closely than has ever been realized.

Sportsmen's organizations which not long ago found it impossible to say anything good about the birds of prey are now speaking up in their defense and urging their members not to kill them indiscriminately. Ducks Unlimited has gone to the expense of publishing a bulletin on hawks. It concludes with this statement: "Unless any of them (hawks) are doing harm to you—let them go their way in peace. They have

their place in Nature and have their appeal to all those who appreciate beauty and adaption to their mode of life. Do not allow your sympathies for their prey to turn your heart and hand against them. There is more in this Predator-Prey relationship than meets the eye. Dame Nature fitted them for their role and she is a wise old Dame and knows what she is doing. Don't forget that you, Mr. Man, are the greatest predator of them all, and a wanton destroyer if ever there was one."

Let Nature's Rodent Control Alone—or Else . . .

PERHAPS the earliest significant effort to educate the public about the value of birds of prey was the publication in 1893 of "The Hawks and Owls of the United States in Their Relation to Agriculture" by Dr. A. K. Fisher. It was issued by the U. S. Department of Agriculture and reported the results of studying the stomach contents of 2,690 birds of prey. It concluded that the rodent control activities of the great majority of hawks and owls entitled them to protection at the hands of farmers and others.

Until we invent some sort of atomic blast that will eliminate rodents but not men, it seems likely that we will need the predators to help keep the rodents in check. It has been pointed out that one pair of meadow mice could be responsible for one million relatives within a year's time if their fecundity was not disturbed. Some 23 million pounds of vegetable matter would be needed to feed this bustling family for one year! Nature has wisely provided controls for the mouse population. Not only the birds of prey, but a wide variety of mammals, eat mice as a staple food.

How Birds of Prey Help Nature Balance Her Books

BIOLOGISTS have been reiterating for years that *availability* is the major factor in determining what predators eat. Because there are many more insects and rodents than anything else, it is not surprising that food habits studies show these items to be basic in the diet of most birds of prey. A surprising amount of predation on game birds and songbirds, as well as other creatures, is upon what biologists call "surplus populations"—in other words, individuals that cannot be sup-

ported by the environment and which in most instances would perish whether eaten by the flesh-eaters or not. It is perfectly clear to biologists, but too often not to the hunters to whom they preach, that a game bird or mammal taken by a predator does not ordinarily mean that there will be one less of that species in the game bag the following fall. The web of life in the out-of-doors is such a complicated one that biology rather than mathematics must be relied upon.

Because public sentiment usually lags considerably behind scientific research, it is not surprising that legal protection for the birds of prey has been slow in coming. Hawks, owls, eagles, and vultures were omitted when most birds were extended protection by the Migratory Bird Treaty between Great Britain and the United States in 1918 and also in the Convention with Mexico in 1936. However, all but eight states have enacted laws which protect at least some of the hawks, owls, and eagles. Most states exempt the *Accipiters* or so-called "bird hawks" from protection. This has resulted in very little attempt at enforcing the laws because, generally speaking, the only persons who can distinguish between the protected and unprotected hawks are those who would not shoot them anyway. A violator brought into court simply pleads that he thought he was shooting an unprotected hawk. Usually the case is dropped.

Legal Protection for Hawks Is Weak but Improving

RECOGNITION of the weaknesses of present legislation and a more general appreciation of the role of even the "bird hawks" in the general ecology of the outdoors has resulted in the development of considerable sentiment for protection of all hawks and owls. So far seven states and one province have taken this bold step—Connecticut, Michigan, Indiana, Rhode Island, Illinois, Florida, California, and Ontario—and others are pondering it. A clause in such legislation, permitting the taking of protected birds by the farmer on his own property when such birds are in the act of doing actual damage, protects the landowner who may suffer from the depredations of those few individual hawks which develop a taste for poultry.

It is generally recognized that a high percentage of North American hawks from widely scattered areas are funneled into fairly

narrow flight lanes during migrations. Thus, wholesale slaughter of hawks at vantage points along the flyways can nullify much of the protection these birds receive on their breeding grounds. For example, certain of the hawks protected by law in Connecticut during the summer can legally be shot in each state through which they migrate in fall and spring.

Should All Hawks Be Protected While Migrating?

TO LESSEN extensive killing of hawks during migration and to compensate in part for the failure to protect them under the Migratory Bird Treaties, some conservationists are advocating that all hawks be protected during migrations (September 1 to November 30 and March 1 to April 30) by an Act of Congress. This would be comparable to the federal statute which protects the Bald Eagle at all times. Except during migrations, hawks would continue to be under the jurisdiction of state laws. It is believed that such legislation would not create the volume of opposition that might be expected if it were proposed to protect by federal law all hawks at all times.

Despite the fact that a great many valiant defenders of the birds of prey have come forward and are doing an outstanding educational job, ignorance about these birds and persecution of them are still widespread. There are, though, many reasons to be encouraged. The tremendous growth of public interest in bird watching as a hobby means that large numbers of people are afield actively observing the birds of prey. In many cases they go into areas where hawk shooters formerly mowed down their victims during migration. The shooters feel guilty to operate when bird watchers are around, perhaps because many of them realize that they are violating state laws.

Discovery of a hawk slaughtering ground on a lookout in the Kittatinny Mountains of Pennsylvania led to the establishment in 1934 of the Hawk Mountain Sanctuary near Allentown where once shooters killed and maimed hundreds of hawks and eagles every week end during migration. Now bird watchers flock to the sanctuary to observe the impressive spectacle of southward bound hawks and eagles. On a banner day thousands of birds of prey may be observed from the lookout. The early hostility of the nearby residents has turned into

open friendliness as a stream of tourists from all over the continent has come to Hawk Mountain—some 12,000 visitors a year. An absorbing account of the history and functions of the sanctuary, which was established by Mrs. C. N. Edge, is contained in the book, "Hawks Aloft," by Maurice Broun. The address is Hawk Mountain Sanctuary, Route 2, Kempton, Pa.

Though mainly Southerners, you can often see vultures in the northern part of the country.



18. TURKEY VULTURE NESTS IN TREE CAVITY

Other famous hawk-watching locations are Cape May in New Jersey, where the slaughter continues despite determined efforts to stop it, and Duluth, Minnesota, where great numbers of hawks swing down the north shore of Lake Superior and come right over the city. The shooting which once took place even in city parks has now been virtually stamped out by the educational and enforcement work of the Duluth Bird Club, an active branch of the National Audubon Society. Unfortunately, there are still many places where such progress has not been made.

Roger Tory Peterson, famed popularizer of bird watching, sums up the situation thus in his foreword to "North American Birds of Prey" by Alexander Sprunt, Jr.: "These raptors, of all birds the finest, are like masterworks of art—yet they are subjected...to a barrage comparable to that directed at clay pigeons in a shooting gallery. How long would the treasures of the Metropolitan Museum or the National Gallery last if they were treated in such a manner? It is a miracle that our

hawks, owls, and eagles have hung on as well as they have, but how long can they continue to do so?"

High Praise for the Hawk from a One-time Critic

THERE CAN BE no doubt, however, that the tide is turning in favor of the birds of prey. Bishop Robert M. Hatch of Connecticut, who admits that he once classified all hawks as "big chicken hawks" or "little chicken hawks" has written this eloquent expression of his "conversion":

"To me the hawk is the supreme expression of the amazing



6. AFRICAN VULTURE FEEDS ON CARRION

Because of their sanitation work, vultures are usually respected.

orchestra of nature, from which no note can be subtracted without serious consequence to man himself. Hawks are an integral part of that orchestra, as well as an expression of its vast score of checks and balances. They are important to us. When we destroy them through ignorance or sentimentality we release an army of other creatures, like rodents and insects, which was never meant to be released. It would be crass, however, to think of them only in terms of economics. Far more significant are their beauty, their expression of wildness in an age which has lost touch with the things of the earth, and the fact that they are symbols of the whole architecture of God's created world."



30. A LONG-LEGGED AFRICAN SECRETARY-BIRD

It kills snakes and other prey by stamping on them.

BIRDS OF PREY

Here are brief accounts of some of the birds of prey depicted in the color photographs which accompany this booklet:

VULTURES

Vultures are big black birds, which characteristically soar in wide circles in the sky. Their naked heads are small for the size of the bird, as contrasted with the much larger heads of hawks and eagles. Representatives of this family are the Turkey Vulture, Black Vulture, and California Condor.

Turkey Vultures Are Typical of the South

VULTURES are usually thought of as southern birds. It is true that the Black Vulture is largely confined to the South, but the Turkey Vulture (No. 18) may be found in the northern states and even into Canada, though it is nowhere common in the North.

A southern scene is hardly complete without at least one vulture

swinging in the sky. These huge birds soar for hours at a time, utilizing thermals that make it possible for them to glide without seeming to move a feather. Vultures can quickly be identified even at a considerable distance by the upward or dihedral arc of their wings. They have a 6-foot wingspread. When flying, the outer wing feathers are separated like the fingers of a hand.



12. CALIFORNIA CONDOR

A living link with the Ice Age—
but only about sixty survivors.

More Sanitation Work for Vultures

THE TURKEY VULTURE's plumage is rusty black, its head and neck being bare. The exposed skin is red. Vultures have weak bills and feet, hence usually are incapable of killing live animals. Virtually all of their food is carrion—dead livestock or wildlife. Everyday our modern highways spread a feast for vultures in the form of birds and mammals killed by speeding automobiles. Sometimes the vultures themselves are killed by cars if they fail to get out of the way in time.

The Turkey Vulture breeds from Lower California and the Gulf of Mexico north to southern Ontario and British Columbia.

African Vultures (No. 6) soaring overhead are often the first indication to a traveler in Africa that a native village is at hand. These small vultures are tame because they are never molested in view of their sanitation work.

One of the most fascinating of African birds is the Secretary Bird (No. 30). It stands about three feet tall and has a wing span of seven feet. Stalking through the bush, the Secretary Bird captures snakes, scorpions, lizards, and rats, which it kills by stamping on them.

America's Largest Bird Is Endangered

THE GIANT California Condor (No. 12) is a link with the Ice Age. It has existed through eons of time down to the present. Unfortunately



11. YOUNG CONDOR AT NEST IN A CAVE

The adult condors care for their youngsters for more than a year.

The fluctuation of one lake level might exterminate these birds in the United States.



31. EVERGLADE KITE FEEDS ONLY ON SNAILS

there are only about 60 survivors of this fascinating species and they are located in the mountains of Southern California. The last stronghold of the birds is in the Los Padres National Forest where a sanctuary was established for them in 1947 by the U. S. Forest Service. Mineral exploration threatened the refuge in recent years, and at the urging of the National Audubon Society and other conservation organizations, the Secretary of the Interior in 1951 issued an order withdrawing from entry under the mining laws about 35,000 acres of land in the Los Padres National Forest. This assures the condors a better chance for survival.

Condors nest in niches in rugged rock cliffs. They are so sensitive to disturbance that an intruder coming within half a mile of the nest may keep the big birds from returning to it for many hours.

Condors do not breed until they are four or five years old. Normally they do not nest more often than every other year, probably because a young condor must be fed and cared for by its parents until it is more than one year old (No. 11). Only about five young condors have been raised to flying maturity annually in recent years. This has just about compensated for the death of adult condors, so the population has not varied materially. It is obvious that the continued production of young condors is vital, if the population of this age-old bird is not to decline abruptly.

The condor has a greater wingspread— $8\frac{1}{2}'$ to $10\frac{1}{2}'$ —than any other North American bird. It is so much larger than the Turkey Vulture that there should be no confusion between the two species. The adults have white wing linings toward the front edges of the under-wing surfaces. The head is a yellow-orange.

KITES

Kites resemble falcons, except that the wide wings of the Everglade Kite are more like those of a Buteo. Generally they have long, narrow wings and airy, graceful flight. The kite family consists of the White-tailed Kite, Swallow-tailed Kite, Mississippi Kite, and Everglade Kite.

Florida's Everglade Kite Must Eat Snails—or Starve!

THIS HANDSOME and gentle hawk is considered to be one of the three rarest birds in America along with the Whooping Crane and California Condor (the Ivory-billed Woodpecker is now thought to be extinct). There may be fewer than fifty Everglades Kites in Florida, the only state where they occur.

Superficially the Everglade Kite resembles a Marsh Hawk, but the white at the base of the tail may be seen from below as well as above.

The Everglade Kite (No. 31) probably has more specialized feeding habits than any other North American bird. It eats only fresh water snails of the genus *Ampullaria*. To search out these snails the



3. A GOSHAWK IS A POWERFUL PREDATOR

Goshawks come into the States from the north at 9 to 11 year intervals when prey is scarce on their northern breeding grounds.

Sharp-shins are part of a food chain that includes small birds.



33. SHARP-SHINNED HAWKS AT THEIR NEST

kite flies low over its marsh habitat. Most if not all of the remaining Everglade Kites in Florida live in the Lake Okeechobee marshes. In the fall they make easy targets for those duck hunters who find the going a bit dull and have little hesitation about exercising their marksmanship on any hawk-like bird that comes over their blinds. That they are materially contributing to the extinction in the United States of a fascinating form of wildlife either is not known to them or does not concern them.

In the past, various attempts have been made to inform the residents of the Lake Okeechobee area concerning the status of the Everglade Kite and the need for its protection. Fortunately the Florida Game and Fresh Water Fish Commission is undertaking a renewed campaign of activity on behalf of the kites. A fine motion picture of the life history of these birds by Bayard Read is being shown widely to sportsmen's groups in Florida. It should be very helpful in arousing public sentiment on behalf of the kites.

Illegal shooting alone is not responsible for the Everglade Kite's decline, however. Once fairly common in Florida, much of its habitat has been ruined by extensive drainage and fluctuating water levels. When the snails are destroyed by drying up of their marsh homes, the kites must move elsewhere or perish. There is real reason for concern that any severe fluctuation of water levels on Lake Okeechobee might exterminate the snails and the kites along with them.

ACCIPITERS

Accipiters are swift-flying hawks with short, rounded wings and long tails. They are usually found in woodlands and do not often soar. Accipiters are sometimes called "blue darters" because of their astonishingly rapid flight.

Goshawk

THIS LARGEST of the Accipiters is bold and defiant (No. 3). It migrates southward into the States in numbers at 9 to 11 year intervals. These "invasions" apparently coincide with a shortage of prey on its northern breeding grounds.

Though often called a "bird hawk," the Goshawk takes many mammals, including tree and ground squirrels, rabbits, and mice.

The Goshawk breeds mainly in Canada from Newfoundland and Alaska southward to the northern United States and sometimes farther south in the mountains.

Sharp-shinned Hawks Famous for Speedy Getaway

THE SHARP-SHIN is a remarkable bird. John James Audubon put it this way: "While in search of prey, the Sharp-shinned Hawk passes over the country, now at a moderate height, now close over the land, in so swift a manner that, although your eye has marked it, you feel surprised that the very next moment it has dashed off and is far away. In fact, it is usually seen when least expected, and almost always but for a few moments, unless when it has procured some prey, and is engaged in feeding upon it."

The food of the Sharp-shin is mostly small birds, often sparrows or warblers. It also captures small mammals on occasion. This is one of the birds that was once referred to as a "bad" hawk. A more general understanding of what ecology is all about and a realization that the Sharp-shin is simply a part of one of the food chains that make all form of wildlife interdependent has resulted in a new viewpoint toward this hawk.

Unlike the Red-shouldered Hawk, the Sharp-shin does not like settled areas. It usually nests in an evergreen (No. 33) and is quite common

Is he "bad" because he kills to live?



25. A COOPER'S HAWK IS SWIFT IN FLIGHT

in the extensive wild woodlands of eastern Canada. Birds from this area are seen in considerable numbers as they migrate southward along the hawk flyways each autumn.

Bird watchers sometimes have trouble separating the Sharp-shin from the Cooper's Hawk. The latter, however, is considerably larger and has a rounded tail in contrast to the square tail of the Sharp-shin.

The Sharp-shinned Hawk breeds throughout all temperate and sub-arctic North America; it winters, after migration, from British Columbia, Iowa, and the Great Lakes, southward to Panama.

Cooper's Hawk Startles Its Unwary Prey

THIS HAWK is an enlarged edition of the Sharp-shin. As with all Accipiters, its typical flight (No. 25) is four or five flaps and a glide. The Cooper's Hawk perches out of sight in a tree and waits for a bird or small mammal to come along. Because of its secretive habits, even bird watchers do not often see it.

Cooper's Hawks often are responsible for losses of chickens for



13. A RED-TAIL HAS LARGE WING SURFACE

Often dubbed "chicken hawk," the Red-tail's chief diet is rodents.

which the more conspicuous soaring hawks are blamed. However, individuals of almost any of the larger hawks may develop poultry-taking habits. Therefore, it stands to reason that *individual* hawks should be controlled where necessary to protect poultry, but that hawks should never be killed just because they belong to a certain species. There are many cases of Cooper's Hawks living near chicken yards and never bothering them.

The Cooper's Hawk breeds from southern Canada south to Florida, the Gulf Coast, and northern Mexico.

BUTEOS

The most conspicuous hawks are the Buteos. They are good-sized with broad wings and fan-like tails. They frequent the open countryside where they usually may be seen soaring overhead.

The Buteos are Red-tailed Hawk, Harlan's Hawk, Red-shouldered Hawk, Broad-winged Hawk, Swainson's Hawk, Short-tailed Hawk, Rough-legged Hawk, and Ferruginous Rough-legged Hawk.

Red-tailed Hawk Is a Masterly Glider

WHEN ONE sees a large, broad-winged hawk with a fan-like tail (No. 13) soaring slowly in the sky, the chances are good that it may be a Red-tail. There is no distinct banding on the under side of the

tail, and when the hawk banks so that the sun reflects the brilliant rusty red of its tail, we are then certain of our identification.

The reason this bird is called a "hen hawk" is that it frequently is seen in farming country, but the description is inaccurate because the Red-tail seldom takes poultry. Rats and mice comprise more than



17. A RED-TAIL CAN SOAR FOR HOURS

Common in farming country, Red-tails make easy targets for misinformed gunners.



29. AN ANGRY RED-SHOULDERED HAWK

The "singing" Red-shoulders are harbingers of spring.

half its diet, and the remainder is divided among insects, small mammals and birds, frogs, snakes, etc.

The Red-tail's beauty (No. 17) and its mastery of the air should be enough to win it friends. Anyone who has watched it spiral from one column of air to another cannot help but sense that it adds grace and color to the outdoor scene.

Some Red-tailed Hawks are very dark, such as the Harlan's Hawk, which is virtually black. Others are extremely pale, like the Krider's Hawk, which is nearly white. Even in the various races of the Red-tailed Hawk there are individuals that have erratic coloration. For example, some are albinistic (white), melanistic (black), and erythristic (red). Roger Peterson states that one albino Red-tail was recorded on an island in South Carolina every winter for six years.

Red-tails often nest on the forest edge where nearby fields and meadows provide good hunting grounds.

Crows often harass the Red-tails but they keep just out of reach of the hawks' long claws, for they seem to realize that they might regret it if the hawks became overly annoyed by their attentions.

Red-shouldered Hawk's Favorite Food Is Insects

FOR FIVE YEARS a pair of Red-shouldered Hawks (No. 29) nested on a ridge in back of my former home just 35 miles from New York City. Every spring I got a thrill out of hearing the Red-shoulder's loud, high-pitched *kee-u kee-u* which has earned for him the nickname "singing hawk." Our family never tired of watching the Red-shoulders as they wheeled in wide circles in the sky. At times there were as many as five of them in view at once.

Although there are a number of homes in that vicinity, no one bothers the Red-shoulders, and they have become relatively unafraid. These birds will live in built-up areas if they are not persecuted. They particularly like wet woodlands and river bottoms and are often found in farming country.

The three eggs take nearly a month to hatch. The hawks may often be seen perched on the lower branches of trees near water areas. From these vantage points they make quick forays for mice, shrews, crayfish, and frogs. The Red-shoulder is very fond of insects; in fact, they make up a major part of its diet.

Those capable mimics, the Blue Jays, can imitate the Red-shoulder's call to perfection. Until you get on to this ruse you may think that Red-shouldered Hawks have suddenly become very numerous.

The Northern Red-shouldered Hawk breeds from Nova Scotia, southern Quebec, and Ontario south to Florida and the Gulf of Mexico and west to the Great Plains. Other races of this hawk occur in Florida, Texas, and along the West Coast.

EAGLES

Eagles resemble the Buteos or "buzzard hawks" but they are much larger and have proportionately longer wings. The Bald Eagle, our national emblem, and the Golden Eagle are the two widely-distributed eagles of North America.

Golden Eagle Is Seldom Guilty of Killing Lambs

GOLDEN EAGLES may be seen occasionally in the East but they are typically birds of the West. Except at close range it is not possible

to see the golden head feathers which give this eagle its name. It appears to be dark all over except for some white at the base of the tail.

Golden Eagles are widely distributed over about half the globe. They prefer rugged, mountainous country with open stretches for hunting. They take a variety of prey—ground squirrels, rabbits, wood-



7. A GOLDEN EAGLE ON ITS CLIFFSIDE EYRIE

Much persecuted, the Golden Eagle deserves a better break.

Rabbits and other small animals are brought to the eagles' eyrie to feed the hungry youngsters.



14. YOUNG GOLDEN EAGLE

chucks, and other small mammals. They will take larger mammals on occasion, including skunks or raccoons, as well as birds. Some Golden Eagles develop the habit of eating young lambs or pigs, but according to careful studies of their food habits, this is rare and is no excuse for persecuting all of them. They also eat a good deal of carrion. Many observers, seeing an eagle feasting on a deer or a lamb, will assume that the bird killed it, whereas it likely was dead when the eagle arrived. The same thing is true of a great many other birds and mammals that eat carrion on occasion. Simply because pheasant feathers are found around a fox den does not necessarily mean that the fox killed the pheasant. He may have found the corpse waiting for him on a highway.

Golden Eagles usually nest on cliff ledges or in tall trees (Nos. 7 and 14). Most species of birds defend what is known as a breeding territory. They drive off other birds of their own kind. Doubtless this is nature's way of preventing depletion of food supply. The Golden Eagles defend a much larger territory than most birds, the average being about 36 square miles. They will fight off any other



2. THE BALD EAGLE, OUR NATIONAL EMBLEM

There may be fewer than 1,000 pairs of Bald Eagles in the United States.

Golden Eagles that are found in "their" territory and may even harry hawks and owls on occasion.

There has been a good deal of publicity about the shooting of Golden Eagles from airplanes in Texas and certain other western states. One airplane hunter boasts that he has downed 512 of these great birds. Ranchers pay for the time of the airplane hunters and

there is every indication that the depredations of the eagles have been greatly exaggerated, perhaps deliberately by those who wish to be paid to shoot them. One unfortunate aspect of this wholesale eagle slaughter is that the birds being killed represent the breeding population from all over western United States and Canada and even into Alaska. Fortunately, Texas conservationists are becoming aroused and Audubon Societies in that state are now working to restore the Golden Eagle to the protected list.

Will the Bald Eagle—U. S. Emblem—Become Extinct?

IT IS ESTIMATED that the present population of our national emblem (No. 2) in the United States is less than 1,000 pairs. Many eagles can be seen on coins and seals but unfortunately the living bird is now rare. Its major stronghold in the United States is in Florida, but even there, extensive development has eliminated many favorite eagle haunts. The famous eagle bander, Charles L. Broley, has placed bands on more than 1,200 Bald Eagles in Florida. However, as of 1954, he estimates there are only 250 pairs left in that state. Broley gets many bands back, particularly from young eagles that were shot by persons who did not recognize them. It takes about four years for a young Bald Eagle to develop its distinctive white head and tail. Until that time it is often mistaken for a large hawk or perhaps a Golden Eagle. Although persons who kill eagles are subject to a maximum fine of \$500.00 and six months' imprisonment, this stiff penalty does not seem to have had great success in preventing the decline of the Bald Eagle population. With millions of gunners afield who know little about bird identification, it is perhaps surprising that any eagles survive rather than that a number are killed each year. The sad fact is that only a few pairs of eagles now remain in areas where once they were fairly common. It would be unfortunate indeed if the United States were to be represented by an extinct bird. It is to be hoped that we will never have to follow the example of Finland which erected a monument on the site where the last Finnish Sea Eagle nested. This species has been virtually exterminated in Europe.

Bald Eagles are believed to mate for life, though if one dies another

mate usually is found. Normally the same nest is used year after year, new material being added each season. A huge nest in Ohio measured 12 feet in depth and 8½ feet across the top. When it finally collapsed of its own weight, two tons of debris were deposited on the ground.

The usual clutch of two eggs is incubated for a month to six weeks. The eaglets are in the nest for about two months before they are ready to solo.

Fish is the Bald Eagle's favorite food. A good deal of it is carrion, but the eagle is able to catch live fish as well. One of the dramatic sights of the out-of-doors is to watch an eagle pursue an Osprey with a fish and force the smaller bird to drop its prey. The eagle then plunges earthward and often captures the fish before it hits the water. Eagles also eat ducks occasionally, but most of these are wounded or victims of lead poisoning. Surprisingly enough an eagle is not often able to catch a healthy duck.

HARRIERS

Only representative of the Harriers in North America is the Marsh Hawk. It breeds in meadows and marshes from the Gulf of St. Lawrence to the Gulf of Mexico. The Marsh Hawk's long, pointed wings, long tail, white rump patch, and its habit of skimming low over farmland and marsh make it easy to identify.

OSPREYS

Ospreys are highly specialized fish-eating hawks. There is only one species which includes five subspecies that are widely distributed throughout the world.

The Osprey Helps Improve Sport for Anglers!

THE OSPREY (No. 23) is always associated with water, though is not fussy whether it be seacoast, lake, or stream. When it sights a fish, the Osprey plunges into the water, sometimes almost disappearing from sight to capture its prey. There are a few records of Ospreys having sunk their talons into fish that were too large for them. The birds were pulled under and drowned.

Casual bird watchers often confuse the Osprey with the Bald Eagle, which may account for the impression some people have that eagles are fairly abundant. There should be no mistaking the two species, however, since the Osprey's whole breast is white, whereas the white on the eagle is limited to its head and tail.

In driving along the New Jersey coast I have been amazed to see dozens of Osprey nests built on the cross-arms of utility poles. I saw at least 50 of them in the vicinity of Cape May alone. Local residents apparently regard the birds much as suburbanites do Robins and pay little attention to them. Visitors to the Cape May area who seldom see Ospreys consider them to be a municipal attraction. On Long Island thoughtful utility companies have provided a number of separate poles with platforms for the Ospreys. This is to encourage the birds to use the dummy poles rather than the regular ones where their nests occasionally cause short circuits.

Perhaps because of their regal bearing and their resemblance to eagles, Ospreys are usually protected by state law and public sentiment, whereas other hawks and fish-eating birds often find that persecution is their lot. Actually, biologists have proved that the fish-eating birds help fishing in that they reduce the large numbers of stunted fish which are so common in many waters. Also, their droppings fertilize the waters. The Osprey feeds mainly on fish that are not desired for commercial or sport purposes, as is true of most of the other fish-eating birds.

Believe it or not, his fishing makes angling better for the avid fisherman!



23. AN OSPREY IS A SKILLED FISHERMAN

The range of the Osprey is almost world-wide. In the Western Hemisphere it breeds from Newfoundland and northwestern Alaska south to the Bahamas and to western Mexico. It breeds in most of Europe, Asia, Australia, and northern Africa.

This vulture-like bird may be seen in Florida and Texas. Its black crest is distinctive.



1. AUDUBON'S CARACARA OFTEN EATS CARRION

CARACARAS

Anatomically the caracaras are closely related to the true falcons but otherwise they are more like the vultures. They are long-legged and sluggish in their movements. The Guadalupe Caracara is extinct. This particular species formerly lived on Guadalupe Island off the coast of Lower California.

Mexico's Flag Depicts Audubon's Caracara Eating a Snake

THE CARACARA'S domain is the prairie. It prefers open country where palms or yuccas are available for nest sites. It is a more attractive bird than the Black or Turkey Vultures. Those persons who take the Audubon Wildlife Tours on the Kissimmee Prairie in Florida are always delighted to spot an Audubon's Caracara (No. 1). It is easy to identify with its conspicuous white patches on the neck and breast and its contrasting black cap. It usually flies near to the ground, but sometimes soars in characteristic vulture fashion. When feeding on

carrion, it often is found in the company of Black and Turkey Vultures. If no carrion is available, the caracara will readily eat snakes, lizards, frogs, etc.

Audubon's Caracara is the national emblem of Mexico. It graces the official seal of our southern neighbor. The bird is depicted with a rattlesnake in its mouth.

FALCONS

The falcons are speedy and handsome. They have long tails and long, pointed wings. Their wing-strokes are rapid and they seldom soar. Falcons include the Gyrfalcon, Prairie Falcon, Peregrine Falcon, Merlin, and Kestrel.

Peregrine Falcon Is a Speed Star

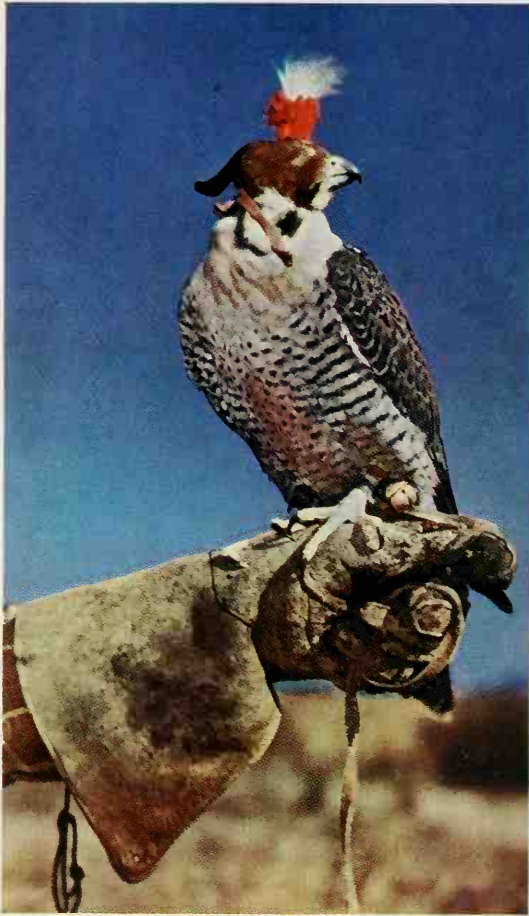
THE PEREGRINE is one of the fastest flyers in the bird world. It has been clocked at 175 miles an hour in a dive. It is truly master of the air and apparently is able to capture any prey that it fancies. Usually the victim is taken in the air. Sometimes, especially with larger birds, the prey is hit with the Peregrine's strong feet and knocked to the ground where it is captured.

Birds are the Peregrine's usual diet, but the species vary from jays and meadowlarks to plovers and small mammals, depending upon where the hawk lives.

In the wild, Peregrine Falcons are partial to cliff ledges as nesting sites; hence they are usually found in rugged terrain, often along sea-coasts, though river gorges and other locations are not uncommon. Their distribution is erratic.

Life Insurance Skyscraper Wins Fame as Host to Hawks!

ALTHOUGH Peregrines usually are associated with wild areas, they have no hesitancy about nesting on skyscrapers in the hearts of great cities where they pursue pigeons and starlings down man-made canyons. Philadelphia, Boston, and New York are some of the American cities that regularly have Peregrine tenants, but perhaps the most famous hawks of all are those that for a dozen years nested on the



22. A PEREGRINE: THE FALCONER'S CHOICE

Falconers are accused of depleting
the Peregrine population.

twentieth floor ledge of the Sun Life Building in Montreal. Bird
watchers placed a nest box on the ledge which was promptly taken
over by the Peregrines. Their life history has been recorded in great
detail by members of the Province of Quebec Society for the Pro-
tection of Birds. Some citizens said they thought such "vicious" birds

should not be permitted to nest in the city, but the hawks had many defenders and they have always been protected.

The statistics show that bringing a young Peregrine into the world is a hazardous job. From 1941 to 1951, 42 eggs were laid on the twentieth floor ledge. Only 21 of them hatched and three of the fledglings died before their solo flights. One of the young falcons swooped on a pigeon and captured it, but its momentum was such that the hawk crashed against a rooftop and broke its neck.

Several years ago the National Audubon Society sent a letter of commendation to the Sun Life Company for the hospitality which it has for so long extended to the Peregrines. In reply the president of that company stated: "I thank you very much for your kind letter ...in which you express the commendation of the National Audubon Society to the Sun Life Assurance Company of Canada for its part in encouraging and protecting the falcons of the Sun Life Building. I can assure you that we are very proud of the discriminating taste of these birds in selecting our building for what I hope will be their home for many years to come. We will certainly continue to do our best to be worthy hosts to these magnificent birds, and every precaution will be maintained to provide them secure and peaceful occupancy so long as they wish to remain our tenants."

Although falconers will train other hawks, their favorite is the Peregrine. Falconry has often been described as the "sport of kings"

These powerful flyers come into the northern States occasionally during the winter.



16. WHITE GYRFALCON FROM THE ARCTIC

and was practiced in medieval times. An elaborate ritual surrounds the sport and the falcons are hooded during training (No. 22).

In the United States falconry is a controversial pastime. Some bird protectionists accuse the falconers of being responsible for the decline of the Peregrine population, asserting that eyries are consistently robbed and that adult birds are live-trapped to supply the demand for falconry practitioners. They add that tamed falcons which escape often fall victims of the first gunners to spot them because they have lost fear of man and hence are unwary. The falconers usually admit that some of their followers are over-zealous and indiscreet but they deny most of the charges, saying that they are among the staunchest supporters that the hawks have and that their birds either escape or are released after a year or two. Because it is hard work to train and care for a falcon, it is not likely that the number of falconers will become very great.

In certain states, the practice of hunting with hawks, particularly protected species of hawks, is illegal. Furthermore, they cannot be



Man-made nesting boxes, if large enough, are quite acceptable to these handsome hawks.

9. A KESTREL AT NESTING BOX

Owls aren't blind by day as is supposed, but they usually hunt at night.



32. OWL'S EYES ADJUST SWIFTLY TO LIGHT

flown at birds protected by federal and state laws. This limits falconers to hunting less glamorous quarry such as Starlings, English Sparrows, pigeons, and other unprotected birds.

The Gyr Falcon is a rare visitor to the United States. It occurs in black, gray, and white (No. 16) color phases. It is larger than the Peregrine but very similar to it in appearance.

Kestrels or Sparrow Hawks, Hardly Larger Than Robins!

GRASSHOPPER HAWK would be a more appropriate name than Sparrow Hawk for this handsome bird. However, the American settlers named it after the Sparrow Hawk of Europe with which it has less in common than with the Kestrel of Europe. American Kestrel is a good name, and many friends of the hawks are now attempting to bring that name into general use, as well as Merlin for Pigeon Hawk and Peregrine for Duck Hawk. Kestrels may often be observed from a car or train as they perch on utility wires from which they dart to the ground to capture their small prey. The Kestrel is just a little larger than a Robin and many casual observers fail to realize that it is a hawk. It is often found in built-up areas and apparently suffers less persecution than most of the hawk tribe.

Kestrels may often be observed hovering like a helicopter over their hunting grounds, watching intently for insects and mice which are captured in their curved claws. The pointed wings and long tail

identify this species as a falcon. The red color of the tail and its small size distinguish it from the other falcons.

Hunter's Faces Turn Red as Dead Hawks Are Vindicated

DR. THOMAS S. ROBERTS, who was widely known as one of the leading ornithologists in the Midwest, once told me that a hunter had bragged to him that he and some friends had shot more than a dozen Sparrow Hawks in a single day. Dr. Roberts did not criticize the man but said that he would like to perform an interesting experiment and asked that he bring his friends and the dead Sparrow Hawks to his laboratory the following day. When they were all gathered around a table on which Dr. Roberts had placed the dead hawks, he proceeded to cut each one open and remove its stomach contents. To the dismay of the hunters the crop of each of the hawks was filled with grasshoppers. They had thought they were helping game birds by shooting the hawks, and it was not necessary for Dr. Roberts to deliver any lecture concerning birds of prey. They had learned their lesson.



19. A FAMILY OF YOUNG BARN OWLS

It's no wonder they are called "monkey-faced" owls!

The Sparrow Hawk breeds in tree cavities and nest boxes (No. 9) over almost the whole of North America. This representative of the Falcon family winters north to southern Ontario and British Columbia.

OWLS

Owls are characterized by their large heads and eyes, facial discs, chunky bodies, and upright perching position. Most of them are night-hunting birds and their flight is noiseless because the soft edges of the wing feathers muffle the sound of the wings beating. An owl's eyes are fixed in their sockets, but its neck is very flexible, allowing it to about-face quickly. The iris of an owl's eye can be quickly expanded (No. 32), permitting it to utilize every bit of light in the night woods. The iris contracts in the daytime but an owl can see perfectly well by day.



It's fun to turn detective and find out what owls eat—these clean, odorless pellets solve the mystery very effectively.

26. FUR AND BONES MAKE UP AN OWL PELLET

Anyone can find out what owls eat by examining the pellets that they regurgitate or spit up. These neat little bundles contain the indigestible portions of the creatures they consume—bones and feathers tightly packed in an outer layer of fur (No. 26). It's fun to play detective by opening these clean, odorless pellets and then trying to identify the different parts—a little investigation and you can figure out what the owls have been eating.

There are 18 species of owls in North America. They vary from



These owls are aptly termed "living mouse traps."

20. BARN OWLS ALMOST FULLY GROWN

the Elf Owl of the Southwest, about the size of an English Sparrow, to the Great Gray Owl of Canada, measuring 27 inches long.

Male Barn Owl Brings Rats to Female Sitting on Eggs

BARN OWLS are often called monkey-faced owls and anyone who has seen one will agree that the nickname is appropriate. These long-legged birds appear almost white in flight. They like open country where they can find an abundance of rodents. They eat whatever rodents are most common, whether they be ground squirrels, mice, rats, or others. They have little hesitancy about coming into settled areas and sometimes will take over church belfries or nest in barns, tree cavities, abandoned buildings, or caves. Most of them migrate South in the winter, though a few hardy ones venture to stay in the North all year round.

One persistent bird watcher spent hundreds of hours during a two-year period in closely observing a pair of Barn Owls nesting in a ventilator opening in an abandoned house. He placed a weak light

These small owls come in two colors: rufous brown or gray.



15. SCREECH OWLS

over the nest and seated himself out of sight in the darkness. In this way he learned many secrets of the Barn Owl's life. For example, he watched the male owl solicitously bring rats to the female as she incubated the five eggs.

Young Barn Owls are covered with white down and have a ludicrous appearance (No. 19). When they are 50 to 60 days old they leave the nest for the first time (No. 20). The parents, however, continue to feed them for more than a month. During the two years that the observer watched the Barn Owls they ate thousands of rodents. No wonder most farmers welcome them on their property!

Screech Owls Were Once Considered Ill Omens

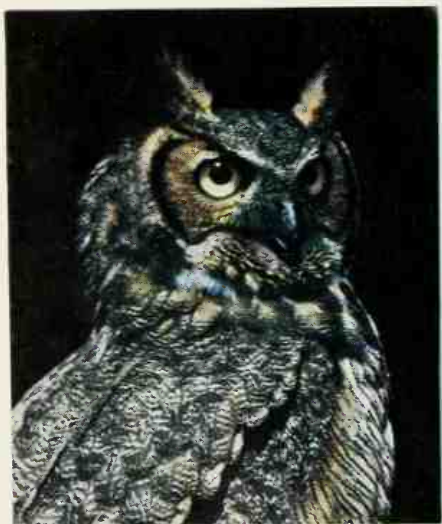
BECAUSE MOST OWLS are creatures of the night, many superstitions about them have developed. Most of these have their origins in early times. For example, Pliny, the Roman naturalist, wrote:

"The scritch owl always betokeneth some heavie newes, and is most execrable and accursed. In summer he is the very monster of the

These youngsters are fed everything from rodents and insects to snakes and even skunks!



5. YOUNG GREAT HORNED OWLS



4. HORNED OWL, FIERCE BIRD OF THE NIGHT

The hooting of this big owl is assurance that wildness still exists in the world today.



27. THE SNOWY OWL MIGRATES PERIODICALLY

Looking like white ghosts, Snowy Owls come southward in search of food.

night, neither singing nor crying out cleare, but uttering a certain heavie groane of doleful mourning, and therefore if it be seene to flie abroad in any place it prognosticateth some fereful misfortune."

Fortunately for the Screech Owl, it is better regarded today. It is the best known of all our North American owls and is the only small owl that has ear tufts.

Interestingly enough, the Screech Owl comes in two colors: a rufous brown, or gray (No. 15). These are color phases and have no relation to the age or sex of the bird. An individual does not change its color.

Screech Owls occur in open woodlands, orchards, and towns. They usually nest in tree cavities, though will accept bird houses if they are large enough and if sawdust is placed on the floor.

The tremulous, screeching whistle of the Screech Owl is distinctive and is quite different from the calls of other owls. It can readily be imitated and the owls are easily attracted by it.

Screech Owls are not fussy about their diet and will eat everything from moths and frogs to birds and bats. They are very bold in defending their nests and have been known to knock the hats off passers-by who came too close.

The Horned Owl Is a Magnificent Predator

"TIGER OF THE AIR" and "Bubo, the executioner" are two of the colorful titles that have been applied to the Horned Owl. Outdoor magazines have printed many hair-raising tales of the ferocity of Horned Owls, most of which have been derogatory to the owls simply because they have to kill for a living. This bird is one of the most magnificent of all wild creatures (Nos. 4 and 5). Its eerie hooting in the night is



2B. RECORD OF A SNOWY OWL MEAL: RAT BONES

Snowy owls like to hunt along beaches, but you can also see them in cities, where dumps provide plentiful rats.

Smallest of our northern owls, the Saw-whet is only eight inches long.



24. A SAW-WHET OWL NESTING IN A BOX

assurance that wildness still exists and that we are not completely surrounded by the mechanical gadgets and refinements of civilization.

Eighteen to twenty-five inches in length, this is the largest of our "tufted" owls. Sometimes where rats are abundant, they may be seen around city parks or dumps, but more often they are found in the deep woods. Like most predators, they take whatever food is most abundant and easily available. Usually this means rodents, with a variation of insects, snakes, wild birds and poultry. Now and then they will capture domestic cats, skunks, and even Barred Owls.

Horned Owls do not build their own nests but take over the abandoned nests of other birds such as Red-tailed Hawks, herons, etc. In many areas they are the earliest of nesters. Even in the North, Horned Owl eggs may be found in February.

Why Snowy Owls Come South

ABOUT EVERY four winters bird watchers in the United States and Canada are treated to a Snowy Owl invasion. These periodic migra-

tions appear to coincide with a shortage of lemmings—the owls' chief food—in their Arctic home. Usually at four year intervals, the lemming population declines to almost nothing. Apparently to avoid starvation, the owls head southward in search of food.

Snowy Owls are large white birds (No. 27) that are abroad during the daytime and therefore are very conspicuous. They are most



21. YOUNG SAW-WHET OWLS

Sometimes you can pick
this owl off a branch.

often seen along seacoasts and lake shores where they prey on rodents (No. 28) and occasional birds. Because they are big and spectacular and make handsome trophies, many of them are shot each winter that they migrate south in numbers. Many states now protect them, and an educational campaign on their behalf, conducted by the National Audubon Society and its affiliated organizations, has helped the birds considerably.

Most Snowy Owls are seen in the northern states. They are seldom reported south of Washington, D. C., though one was observed in Florida. In an "invasion year" they start coming into the States in November and usually are not seen after March.

This Saw-whet Owl Was Entirely Fearless

THIS IS the most diminutive of all northern owls (No. 24), being only eight inches long. A beautiful little bird, it is unfortunately

seldom seen even in areas where it is fairly common because it is so completely nocturnal.

I remember coming upon one in a fallen hemlock tree in southern New York one winter. I walked up to it and it just stared at me. Probably I could have caught it with my hand but I preferred not to frighten it. Almost every time I entered the woodland that winter I could go to the fallen hemlock and find the Saw-whet dozing, preparatory to going on the night shift. It gets its name from its call which sounds like the filing of a saw. Saw-whets sometimes nest in old woodpecker holes. The juvenile birds (No. 21) keep their rich brown plumage all summer long.

❧ ABOUT THE AUTHOR ❧

KENNETH D. MORRISON is director of the Mountain Lake Sanctuary and Singing Tower at Lake Wales, Florida. He administers the properties under the direction of The American Foundation, which owns and maintains them.

Prior to joining the Foundation staff in 1956, Mr. Morrison was editor of *Audubon Magazine* and vice-president in charge of public relations for the National Audubon Society in New York.

Mr. Morrison has written and spoken widely on subjects pertaining to natural resource conservation. He has been especially active in promoting better public understanding of the persecuted birds described in this booklet, as well as those species of wildlife threatened with extinction.

Mr. Morrison's articles on nature and conservation subjects have appeared in *Audubon Magazine*, *Natural History*, *American Forests*, *Nature Magazine*, *Farm Journal*, *This Week*, and elsewhere. He is listed in "Who's Who in America."

Mr. Morrison's home is in Babson Park, Florida. He is a member of the National and Florida Audubon Societies, Wilderness Society, Hawk Mountain Sanctuary Association, Nature Conservancy, National Parks Association, American Ornithologists' Union, and Wilson Ornithological Society.

We are indebted to the following prominent Nature Photographers for the illustrations appearing in this volume:

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A. Sanborn

Ylla

AUDUBON MEANS CONSERVATION — Theodore Roosevelt said: "I do not understand how any man or woman who really loves nature can fail to try to exert all influence in support of such objects as those of the Audubon Society."

Founded in 1905, the National Audubon Society is the oldest and largest national organization working for the conservation of wildlife, plants, soil and water. The Society's educational program reaches into millions of homes annually. More than 9,000,000 children have worn the pins of the Audubon Junior Clubs. Audubon Camps train adult leaders to teach nature and conservation subjects more effectively. Audubon Wildlife Tours thrill those who go afield with expert naturalists of the Audubon staff. Faithful wardens of the Society protect birds and other wildlife by patrolling more than one million acres of land and water—including the Audubon Sanctuaries. Because of these and many other activities, membership in the National Audubon Society offers an answer to those who ask, "What can I, as one individual, do about conservation of wildlife and other natural resources?"

National Audubon Society headquarters are at 1130 Fifth Avenue, New York 28, N. Y. The Society is supported by membership dues, contributions and bequests.

